

CONJOINED TWINS IN POLYNESIA?

John Raffensperger, M.D.

My arrival to Easter Island was on the *Soren Larson*, a two-masted square-rigged sailing ship. We sailed from Panama via the Galapagos and I spent a delightful week on Easter Island before flying on to Tahiti and New Zealand. Along the way, I became intrigued with carved figures and petroglyphs that seemed to depict joined human beings which I took as textbook illustrations of conjoined twins. That experience, plus a search of the literature, has led to this paper.

My interest stems from the ethical considerations involved in the care of six sets of twins (Raffensperger 1997:249-255). I was, however, unaware of artistic representations of joined human figures until I observed a terracotta statuette from Mexico in the Museo de Colon, Gran Canaria (Figure 1). This statuette appeared to represent parapagus twins. I thought no more of it until Easter Island, when I found a wood carving of two men joined at the waist in a tourist shop. The proprietor said it had no special significance. But I then noted a two-headed *tahonga* in the island museum (Figure 2) that further stimulated my interest, as did the red scoria figure at Vinapu which originally had two heads (Figure 3).



Figure 1. A terracotta figure of parapagus twins from Mexico, in the Museo de Colon, Canary Islands.

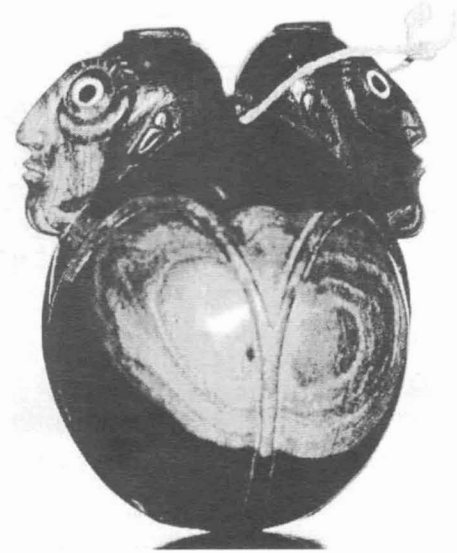


Figure 2. Two-headed *tahonga* in the Museo Antropológico Padre-Sebastian Englert. (from Ramirez and Huber 2000)

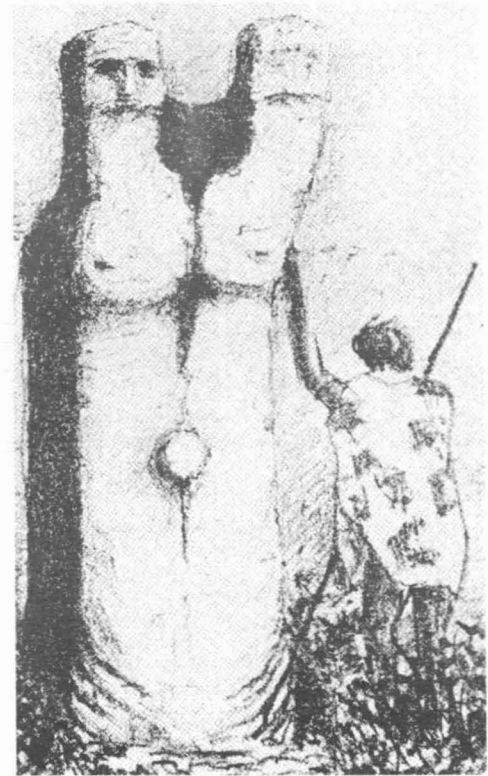


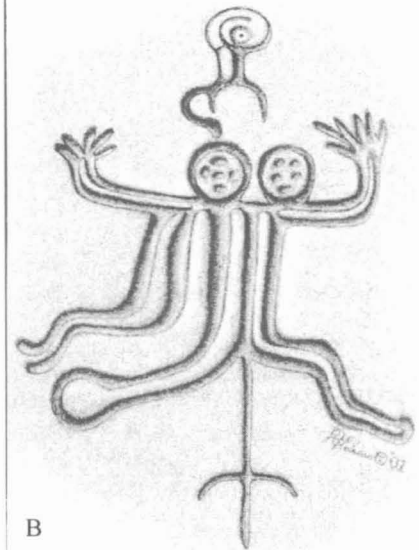
Figure 3. The two-headed *moai* at Vinapu, from Heyerdahl and Ferdon, 1961.



Figure 4. Carving in the Musées de Tahiti et des Isles. Back-to-back union at the sacral area is typical for pygopagus union. Sketch by author.



A



B

Figure 5. The Tipaerui petroglyph in the garden of the Musée de Tahiti et des Isles appears to represent a small woman who has given birth to parapagus twins. A) photograph from the museum brochure; B) drawing to show detail. There may be six fingers on the hand to the right and a possible club foot on the left leg. These associated anomalies would be in keeping with conjoined twins.



Figure 6. Carving of conjoined females, now in the Canterbury Museum, Christchurch, New Zealand.

At the Musées de Tahiti et des Isles I noted a small rather crude carving of two human figures joined at the sacrum, sitting back to back (Figure 4). The curve at the back at the juncture and the 'pot' bellies are almost identical to that of the Blazek pygopagus twins (see Figure 8). In the museum's courtyard is a large stone with a petroglyph of a two-headed figure placed below a smaller female figure (Figure 5). The two heads and the proximity of the bodies suggested conjoined twins. The

appendage from the axial of the twin on the right might be a third arm. A museum curator stated that "they were venerated". It seemed incredible to find evidence for conjoined twins on three widely separated mid-ocean islands. The Canterbury Museum in New Zealand, Curator Roger Fyfe kindly allowed me to examine a two-headed female figure that was collected on Easter Island in 1906 (Figure 6). This carving had the sheen and smoothness that comes from long handling and care, as if it had been venerated. The faces look outward and have different features and hairstyles. The head size is that of adults. Anatomically, this carving seemed to represent parapagus conjoined (Siamese) twins.

CONJOINED TWINS

Man's fascination with conjoined twins dates from prehistoric times. Some of the earliest illustrations on conjoined twins are on clay tablets found in a mound near the Tigris River. These records, belonging to the Royal Library of Nineveh, were assembled under the Assyrian king Ashurbanipal and may be copies of earlier records. A double-headed twin goddess dating from 6500 BC was found in southern Turkey (Warkany 1976:6-9; Schumacher et al. 1988:541-555). In the Middle Ages, two-headed conjoined twins were recorded in pamphlets and illustrated with woodcuts. Spiritual leaders were especially interested in joined humans. The first autopsy performed in the New World was ordered by a priest on the island of Hispaniola in 1533 to determine the site of the soul in conjoined twins (Chavarria and Shipley 1924:297-302). In recent times, twins were exhibited as sideshow freaks or on the stage, and all aspects of their lives are reported in the print media and television. It would not be surprising if ancient Polynesians depicted conjoined twins in their traditional materials.

The incidence of conjoined twins is approximately one in 50,000 births. It is higher in some areas, such as South Africa.

Joined humans result from the fusion of two independent embryos during the third or fourth week after fertilization (Spencer 1992:591-602). Only homologous parts of the embryos can unite. Thus, the union of thoracic and abdominal viscera may take place when two embryos join at the chest or abdomen. Fusion may occur at sites of normal embryonic openings such as at the cranial neuropores or at the pharyngeal or cloacal membranes. Thus, twins are joined at specific sites, such as head to head, chest-to-chest, tail-to-tail, side-to-side, or back-to-back. They are never joined head to tail or back to front. They are always the same sex, with a preponderance of females (3 to 1). The extent of union varies from a skin bridge to the sharing of organs, such as the heart and liver. There are eight kinds of conjoined twins, the most common are illustrated in Figure 7.

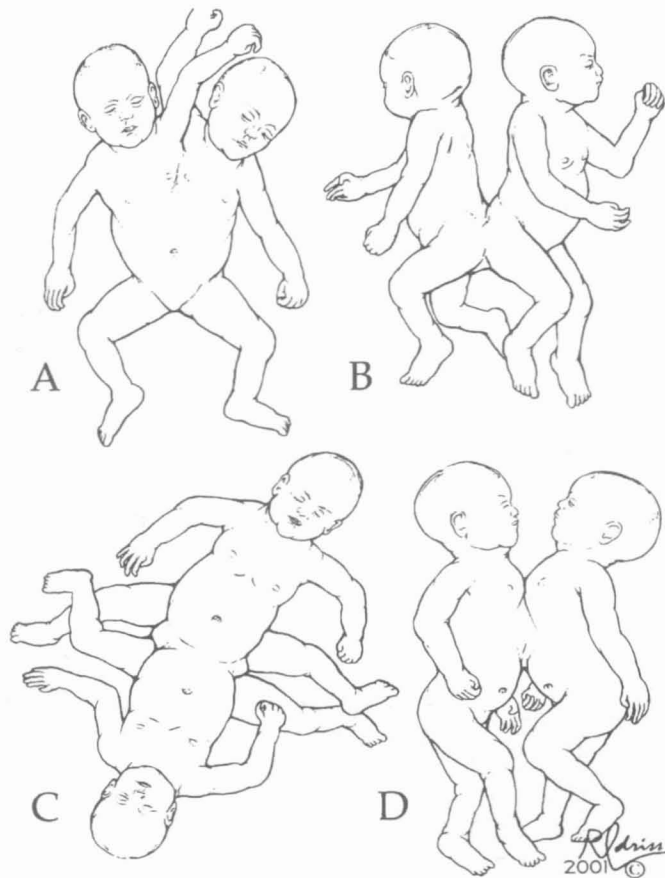


Fig. 7a-d. Types of conjoined twins (after Spencer 1992).

- A) Parapagus: side to side fixation, from lower body down with variable union of the upper body. In extreme cases there may be two faces, side by side, on one head.
- B) Pygopagus: union involves the sacrum. When the entire spine is joined, the term is rachipagus.
- C) Ischiopagus: end to end union of the lower half of the body, usually three legs but may be two or four.
- D) Omphalopagus: only the stomach is involved. When the hearts are joined, the term is thoracopagus.

Previously, such terms as “dicephalous tribrachius” would describe a twin with two heads and three arms. Currently, the Greek word “pagus”, meaning fixed, is used along with a de-

scription of the anatomy. Thus parapagus twins are joined side by side or somewhat ventrolaterally with a shared umbilicus, abdomen and pelvis. They may have two heads with separate upper trunks and four arms, two heads on one body or one head with two faces. Thoracopagus indicates junction of the thorax with shared hearts. Omphalopagus is union at the umbilicus, with shared intra-abdominal organs. Ischiopagus twins are united ventrally from the umbilicus down to a conjoined pelvis. These are extremely complicated unions. Pygopagus indicates posterior junction at the sacral area while rachipagus is more extensive back-to-back union of the entire spine. When union involves lower portions of the body, twins share a common rectum, urethra and genital tract. There is a high incidence of associated birth defects, particularly in those with extensive union of viscera. One twin may be larger and stronger, and many are stillborn or die in the prenatal period.

In Constantinople, surgeons attempted to separate twins as early as AD 945 (Pentagalos and Lascaratos 1984:99-102). Since 1950, surgical separation has become increasingly successful. Ischiopagus twins whose entire lower body was united were surgically separated at one year of age; one twin is a long-term survivor and now is a college student. There are well-documented examples of twins who not only survived to adulthood but who seem to have a reasonable quality of life (Guttmacher and Shipley 1967:10-17; Luckardt 1941:118-125; Smith 1988:147). Change and Eng, the original “Siamese Twins” were connected by a band of abdominal tissue and were exhibited in P.T. Barnum’s circus and later became successful farmers. They married and each sired children. The Blazek twins (Figure 8), connected at the sacrum and sharing a common rectum and urethra, were born in 1878, performed on the stage, and one became pregnant, delivering a normal child. Several parapagus twins have survived and lived outwardly happy lives (Figure 9). Parapagus sisters, reported in *Life* magazine, are coordinated and agile (Miller and Doman 1996:44-56) and athletic ability has been observed in other parapagus twins who can swim and play tennis with ease.

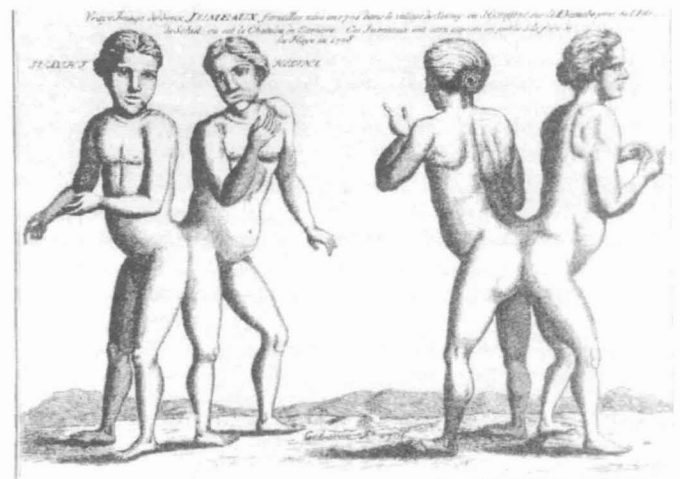


Figure 8. Pygopagus twins. These famous sisters performed on the stage and one became pregnant.

THE IMAGES

Perhaps the red scoria *moai* at Vinapu (see Figure 3) was a model for the two-headed figures carved in wood. When Palmer from the HMS *Topaze* sketched the statue in 1868, its two heads were still intact (Kurze 1997:34). Two-headed stone figures have also been found at the Paeke site in Taipi Valley on Nuka Hiva (Heyerdahl and Ferdon 1961:Pl. 37 a-d; 56 d-h). This double head was formed by a pecked groove that separated the two faces and continued down to the waistline. The facial features, sadly, were almost completely eroded (Figure 10). Another stone statue from the Marquesas is that of two figures joined at the back of the head and the sacral area. These appear to be a rachipagus type of twin (Figure 11).

The *tahonga* from Easter Island were used as pendants and often have two heads. These may represent a mythological person, born from an egg. The originals were carved to represent coconut shells (see Figure 2).

Two-headed male figures from Easter Island (Figure 13) show the spine separating in the mid-thoracic region, and a two-headed figure on a single broad chest is from Matavai Bay, Tahiti (Figure 14).

A male *rambaramp* figure from Vanuatu has one body, but two arms and two legs. The heads are made from over-modeled skulls (Bonnemaïson et al. 1996: 42, Fig. 60). This tall slender figure with two heads is sinister and deathlike. On the other hand, two-headed twins from New Ireland have smiling happy faces (Figure 12).

DISCUSSION

Double headed figures are among the most consistently recurring images in the art of Easter Island. They may be facing in different directions or have interlocking faces on a single head (Heyerdahl 1976:223, 226). Ceremonial staffs with Janus-heads may represent a badge of high rank or sacred power of the high chief on Rapa Nui (Esen-Baur 1990:24). This theme of duality, or the gods

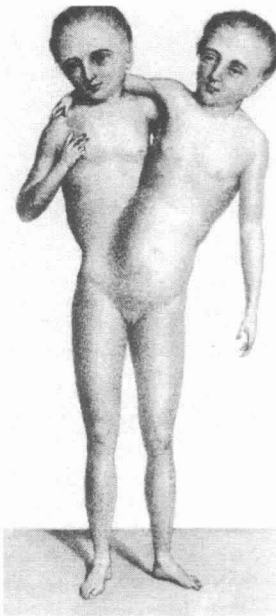


Figure 9. Parapagus sisters with separate torsos. The juncture can include the entire chest.



Figure 10. Statue from the Paeke site on Nuka Hiva, Marquesas. The facial features are almost entirely eroded. (Photo courtesy of The Newberry Library, Chicago).

being represented as double-beings who share a single body is common in Polynesia. Carved images were used during feasts and rituals, and are thought of as having spiritual significance (D'Alleva 1998:102). Back-to-back figures may represent all-seeing spirits who can look in both directions at one time. On the other hand, Fijians who acquired small ivory double images from Tonga regarded them as ancestor figures (ibid.:103-105).

These carved figures may represent actual departed ancestors. Heyerdahl (1976:138) gives an account of an elderly man, Horacio Teao Huki, who presented him with a double-headed stone image. Only after the old man was confronted by Padre Sebastián Englert did he explain that it represented Ngaru Hiva Aringa Erva, the double headed son of king Kainga. The incidence of double-headed figures from Easter Island suggests that at one time in antiquity, parapagus twins existed. In fact, more than one may have occurred as carvings illustrate both sexes.

An interesting legend exists concerning the petroglyph image from Tahiti (see Figure 5). It is said that it represents a woman and her twin children: A man, Taturii, who came from one of the other islands to help fight in Tahiti carved it in memory of his twins (and/or wife), who died in childbirth (Teilhet-Fisk 1973:210). The petroglyph shows a small woman with spread legs above large conjoined male twins. It would be likely that she and probably the twins died during a protracted difficult

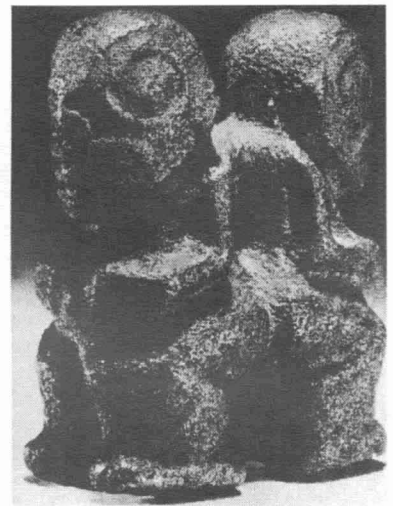


Figure 11. A basalt statue from the Marquesas. Joining back to back could represent a rachipagus type of twinning. This statue is in the National Museum, Wellington, Australia. (Kaeppeler et al. 1997:Plate 733).

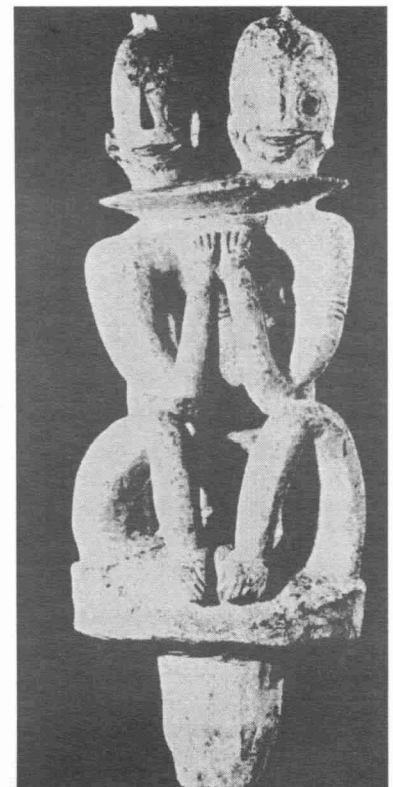


Fig. 12. A double figure in chalk and paint from New Ireland, now in the Australian Museum, Sydney. This image was thought by Brodsky to be a parapagus type of conjoined twin.

delivery. Today, conjoined twins are almost always delivered by Cæsarian section.

A physician with an interest in birth defects, Brodsky (1943:41), collected evidence for the medical basis of Polynesian art and lore. He identified several images depicting double-headed figures and collected the following legend from Samoa:

Sinalolofutu became with child and she brought forth twin girls, but they were not separated, but were joined together by their backs. Their names were Ulu and Ona. After many years, the years were not known, the girls had grown up. The girls were startled in their sleep and rushed from the house, each one by a separate door. The door post separated their bodies, so they were parted asunder.

Another legend tells of twins, Apiko and Novido who were held fast by flesh and bone at the buttocks. When one walked forward, the other walked backwards. Brodsky (1943:41) was convinced, as I am, that these figures do indeed represent conjoined twins.

The anatomic evidence as well as some of the ancient myths suggests that some of the double-headed human figures of Polynesia represented actual conjoined twins who appeared at various times in different areas. Perhaps someday an archaeologist may excavate a skeleton with two skulls or a shared pelvis.

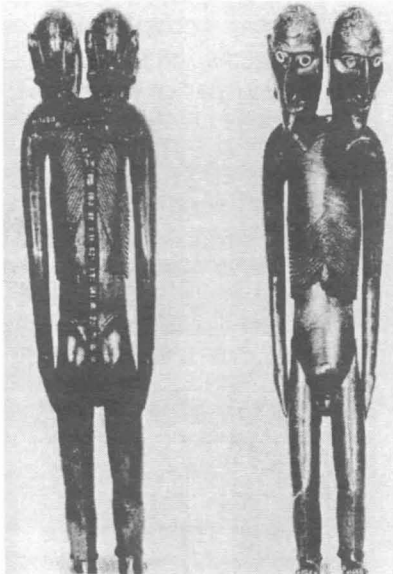


Fig. 13. Carving from Easter Island, now in La Rochell, France. I was particularly intrigued by the spine detail which is separated in mid-thoracic region. Kaeppler, et al. 1997 :pl. 295-96.

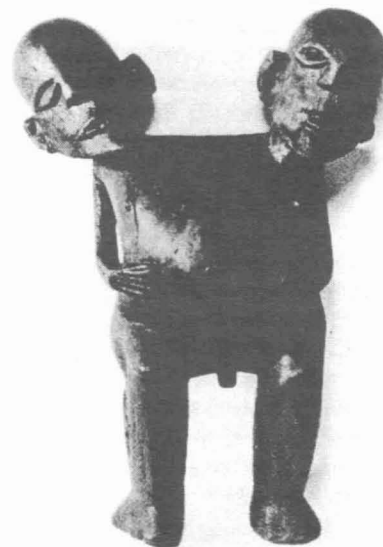


Fig. 14. Two heads on a single broad chest, collected from Matavai Bay, Tahiti, in 1822. This is the same area where the petroglyph (Figure 5) was found (after Barrow 1979 :pl. 47).

ACKNOWLEDGEMENTS

Roger Fyfe, ethnologist at the Canterbury Museum provide the original impetus to pursue my interest in conjoined twins of Polynesia. Thanks also to Georgia Lee of the Easter Island Foundation who encouraged preparation of this paper.

REFERENCES

- Barrow, T. 1979. *The Art of Tahiti*. Thames and Hudson, London.
- Bonnemason, J., C. Kaufman and D. Tryon. 1996. *Arts of Vanuatu*. University of Hawai'i Press, Honolulu.
- Brodsky, I. 1943. Congenital Abnormalities, Teratology and Embryology: Some Evidence of Primitive Man's Knowledge as Expressed in Art and Lore in Oceania. *The Medical Journal of Australia*, 1:417-420.
- Chavarria, A. P. and P. G. Shipley. 1924. The Siamese Twins of Española. *Annals of Medical History* 6:297-302.
- D'Alleva, Anne. 1998. *Arts of the Pacific Islands*. Perspectives, Harry N. Abrams.
- Esen-Baur, H.M., ed. 1990. *State and Perspectives of Scientific Research in Easter Island Culture*. Courier-Forsch-Int., Senkenberg, Frankfurt.
- Guttmacher, A. F. and P.G. Shipley. 1967. Bibliographical Notes on some Famous Conjoined Twins. *Birth Defects* 3:10-17.
- Heyerdahl, T. 1976. *The Art of Easter Island*. Allen and Unwin, London.
- Heyerdahl, T. and E. N. Ferdon, Jr. 1961. *Archaeology of Easter Island. Reports of the Norwegian Archaeological Expedition to Easter Island and the East Pacific*, Vol. 1. Monographs of the School of American Research and the Kon Tiki Museum, 24.
- Kaeppler, A. L., C. Kaufman and D. Newton. 1997. *Oceanic Arts*. Harry N. Abrams, New York.
- Kurze, J. S. 1997. *Ingrained Images. Wood Carvings from Easter Island*. The Easter Island Foundation, Los Osos.
- Luckhardt, A. 1941. Report of the Autopsy on the Siamese Twins Together with other Interesting Information on their Lives. *Surgery, Gynecology, Obstetrics* 72.
- Miller, K. and J. M. R. Doman. 1996. Two Lives Undivided. *Life Magazine* 19.
- Pentagalos, G. E. and J. G. Lascaratos. 1984. A Surgical Operation Performed on Siamese Twins during the Tenth Century in Byzantium. *Med Bull. Hist.* 58:99-102.
- Raffensperger, J. 1997. A Philosophical Approach to Conjoined Twins. *Pediatric Surgery, International* 12(4):249-255.
- Schumacher, G. H., G. Hartmunt, V. N. Trivedi, P. and H. Gill. 1988. Historical Documents concerning Craniopagi and Conjoined Twins. *Gegenbaurs Morphol. Jahrbuch* 134. Leipzig.
- Schuster, C. and E. Carpenter. 1996. *Patterns that Connect. Social Symbolism in Ancient and Tribal Art*. Harry N. Abrams, Inc., New York.
- Smith, J. D. 1988. *Psychological Profiles of Conjoined Twins*. Prager, Westpoint.
- Spencer, R. 1992. Conjoined Twins: Theoretical Embryologic Basis. *Teratology* 45.
- Teillet-Fisk, J. 1973. *Dimensions of Polynesia*. Museum Catalog.
- Warkany, J. 1971. *Congenital Malformations, Notes and Comments*. Year Book Publishers, Chicago.